ABSTRACT

As track widths in magnetic read heads grow smaller, the spacing between the bias magnets grows less so their effect extends further and further into the free layer. This can be reduced by means of a bias cancellation layer but at the cost of increased edge sensitivity. This problem has been solved by limiting the width of the bias cancellation layer and by adding an extra layer of insulation to ensure that current through the device flows only through its central area, thereby minimizing its edge reading sensitivity.